

Family Bembridae

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Body elongate, shallowly ovoid in contour, little compressed. Head large, pointed, rather narrow, depressed. Snout rather long. Maxillary extends below eye, expanded terminally. Eye moderate or large, little pre-median in head, close set.

Mouth rather large, jaws more or less even. Teeth fine, in bands on jaws, vomer and palatines. Nostrils 2 each side. Armature of head well developed, with spines and serrae. Body covered with scales, variable, also on head except muzzle. Branchiostegals 7. No air bladder. Lateral line distinct, complete. Two dorsals,

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first with 6 to 11 spines, smaller than soft fin. Anal like second dorsal. Caudal moderate, subtruncate or rounded. Pectoral rather large, most of rays branched, and without detached rays. Ventral little in advance of pectoral, with spine and 5 rays.

A small family resembling the Platycephalidae, less depressed, and the ventrals inserted a little before the pectorals..

Bembri d'ac

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Analysis of Genera

a. Parabembrinae new subfamily.
Lateral line high, runs along
upper side of back; spinous
dorsal larger than second
dorsal, which (only) with 9 rays;
anal like second dorsal.

Parabembras.

a. Bembrinae, ^{new subfamily.} Lateral line
slopes from suprascapula, median
or axial along side of tail;
base of spinous dorsal always
shorter than second dorsal base;
anal long like second dorsal.

b. Anal rays 11.

c. Eye little greater than snout;
scales 32 in lateral line.

Brachyembras.

c. Eye less than snout; scales
28 in lateral line.

Bembradium.

b.² Anal rays 14; eye less than ²²⁷⁰ snout.

d.¹ Dorsal spines 6; scales
40 in lateral line.

Bembradon.

d.² Dorsal spines 11; scales
75 or 76 in lateral line,
tubes 49 or 50.

Bembras.

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Genus Parabembras Bleeker

Parabembras Bleeker, Verslag.
Kon. Akad. Wet. Amsterdam,
ser. 2, vol. 8, p. 370, 1874.
(Type Bembras curtus
Schlegel, monotypic.)

Bonffichthys Day, Fishes of India,
pt. 1, p. 162, 1875. (Type Scorpaena
harida Linnaeus.)

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Body elongate, slenderly
ovate and compressed. Head
large, compressed, pointed.
Snout depressed. Eye large,
high, largely premedian in
head. Mouth moderate, lower
jaw well protruded. Maxillary
extends below eye. Nostrils 2,
well separated. Interorbital
narrow. Armature of head
well developed, with sharp
spines. Gill rakers slender.
Scales rather large, ctenoid,
and on fins extend only on
pectoral and caudal bases.
Dorsals well separated, first
fin with 9 spines and second
with spine and 8 rays.
Anal with 3 spines and 5
rays. Caudal rounded. Pectoral
moderate, rays branched. Ventral
inserted before pectoral, with spine
and 5 rays.

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Plectrogenium Gilbert, from
Hawaii is very suggestive
superficially to this genus,
but of course differs in many
ways, especially the snout
shorter than the eye, the
continuous dorsals deeply
notched and 2 spines at
the front of the second dorsal.

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Parabembras curtus (Schlegel)

Bembras curtus Schlegel,
Fauna Japonica, Poiss.,
p. 42, pl. 16, figs. 6-7, 1843
(type locality, Japan). —
Richardson, Ichth. China and
Japan, p. 217, 1846 (reference).
— Günther, Cat. Fish. Brit.
Mus., vol. 2, p. 191, 1860 (copied).

~~Genus Pseudosynanceia Day~~

~~Pseudosynanceia Day, Fishes of
India, pt. 1, p. 163, 1875. (Type
Pseudosynanceia melanostigma
Day, monotypic.)~~

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Parabembras curtus Bleeker,
Verslag. Kon. Akad. Wet. Amster-
dam, Ser. 2, vol. 8, p. 370, 1874
(reference); Verh. Kon. Akad.
Wet. Amsterdam, vol. 18 (no. 6),
p. 12, 1879 (reference).

— Jordan and Snyder, Annot.
Zool. Japon., vol. 3, p. 105, 1901
(reference). — Jordan and
Richardson, Proc. U. S. Nat. Mus.,
vol. 33, p. 644, 1908 (copied). —
Jordan, Tanaka, Snyder, Journ.
College Sci., Tokyo, vol. 33, art. 1,
p. 287, 1913 (reference). —
Jordan and Hubbs, Mem. Carnegie
Mus., vol. 10, no. 2, p. 281, June 27,
1925 (Osaka market).

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Depth $5\frac{1}{4}$ to $5\frac{3}{4}$; head $2\frac{1}{3}$ to $2\frac{3}{5}$, width 2 to $2\frac{1}{8}$. Snout $3\frac{3}{4}$ to $3\frac{7}{8}$ in head from snout tip; eye $3\frac{1}{4}$ to $3\frac{1}{3}$, greater than snout, and very narrow inter-orbital; maxillary reaches $\frac{1}{5}$ to $\frac{1}{4}$ in eye, expansion $3\frac{2}{5}$ to $3\frac{3}{4}$ in eye, length $2\frac{3}{5}$ to $2\frac{4}{5}$ in head from snout tip; teeth minutely villiform, in bands in jaws with upper little broader than lower; triangular band of fine villiform teeth on vomer and ^{long narrow} band on each palatine; interorbital narrow, concave, width $4\frac{1}{4}$ to $4\frac{1}{2}$ in eye. Gill rakers 6 + 12, lanceolate, of which 3 above and below short rudimentary tubercles; gill rakers $2\frac{4}{5}$ in eye; gill filaments $\frac{3}{5}$ of gill rakers.

Front nostrils with pair of internasal spines; 8 pair of supraorbital spines with last 3 closer and followed by pair of much more widely set parietal spines (close & behind upper orbital edge), then closer pair of well developed occipitals; large, strong preorbital spine, pointing backward below suborbital stay and front of eye; suborbital stay with 5 strong spines, last smallest; strong preopercular spine, 3 in eye; 2 rather close set opercular spines, lower slightly forward; 2 postocular spines, followed by 3 at suprascapula; strong, short humeral spine.

Scales 32 or 33 + 10 in lateral line; 4 above to spinous

dorsal origin, 5 above to soft
 dorsal origin, 8 below; 6 or
 7 predorsal forward to
 occiput; 4 rows on cheeks
 below suborbital stay.
 Head scaly behind eyes.
 Small scales on bases of
 pectorals and caudal, rather
 large on breast and belly.
 Scales with 11 to 14 basal
 radiating to parallel striae;
 45 to 54 slender short apical
 denticles, with 2 to 4 transverse
 series of basal elements; circuli
 fine basally, coarser and
 ending abruptly apically.

D. IX - $\overline{1}$, $\overline{8}$, $\overline{1}$, fourth spine
 $2\frac{3}{5}$ to $2\frac{2}{3}$ in total head length,
 first branched ray $2\frac{7}{8}$ to 3;
 A. \overline{III} , $\overline{5}$, $\overline{1}$, second spine $3\frac{7}{8}$ to
 4, second ray $2\frac{7}{8}$ to 3; caudal
 $1\frac{3}{4}$ to 2, slightly convex behind;

U. S. N. M., No.

Albatross Collection. No. D. 5596.

Zamboanga Light N. 31° W.,

0.1 mile (N. Lat. $6^{\circ}54'$, E.

Long. $122^{\circ}4'30''$), Mindanao.

5 fathoms. October 10, 1909.

least depth of caudal peduncle
 $4\frac{1}{4}$ to $5\frac{1}{8}$; pectoral $1\frac{4}{5}$ to
 $1\frac{7}{8}$, rays I, 17; ventral rays
I, 5, fin $2\frac{1}{5}$ to $2\frac{2}{5}$ in total
head length.

head length.
Pale brown, little lighter
on whitish below. Iris gray.
Fins all pale, with dark
spot on soft & dorsal terminally.
China, Japan.

U. S. N. M., No. 86974. Shanghai.
A. Fowlerby. Four examples.
Length 115 to 126 mm.

Chlorophthalmidae

Bathysauropsis

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Genus Bembradium Gilbert

Bembradium Gilbert, Bull. U. S.
Fish Comm., vol. 23, pt. 2, p. 637,
1905. (Type Bembradium
roseum Gilbert, monotypic.)

differs from Bembras in the
fewer anal rays (11), larger
scales (30) and short man-
dible included in the upper
jaw. Lateral line slopes down
above anal, axial along side
and complete.

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Bembradium roseum Gilbert

Bembradium roseum Gilbert,
Bull. U. S. Fish Comm., vol. 23,
pt. 2, p. 637, 1905 (type locality,
Pailolo Channel, in 138 fathoms).
— Jordan and Richardson,
Proc. U. S. Nat. Mus., vol. 33, p.
642, 1908 (reference). — Fowler,
Mem. Bishop Mus., vol. 10, p. 302,
1928 (copied).

Bembradium roseum Gilbert,
l.c., pl. 62.

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Depth $5\frac{3}{4}$; head $2\frac{1}{2}$, width $2\frac{1}{5}$.
Snout 3 in head; eye 4, $1\frac{2}{5}$
in snout, greatly exceeds very
narrow interorbital; maxillary
extends $\frac{2}{5}$ in eye, expansion 2
in eye, length $2\frac{1}{6}$ in head;
teeth finely villiform, in narrow
bands in jaws, on vomer and
palatines; tongue small, narrow,
pointed and free; interorbital
narrow, deeply concave, ^{width} 4 in
eye. Gill rakers 2 + 6, of which
2 upper and 2 below rudiments;
length $\frac{3}{4}$ of gill filaments, which
 $3\frac{1}{2}$ in eye.

Ridge over front nostrils
each side with 5 small denticles;
strong antero-orbital spine
directed upward, and supra-
orbital ridge with 13 rather
large serrulae, followed by
pair of occipital spines and

finally wide set suprascapula
 spines, one each side; strong
 postocular spine, with small
 antero-basal spine and 2 small
 denticles still anterior; sub-
 orbital stay with finely serrated
 edge; preopercle edge with
 strong spine behind end of
 suborbital stay and 4 or 5
 upturned serrae along edge
 below; 2 opercular spines,
 upper little longer and lower
 slightly forward; strong
 humeral spine concealed under
 gill flap.

Scales 26 + 2 in lateral
 line; 3 above, 7 below to anal;
 5 predorsal; 5 below suborbital
 stay on cheeks. Head scaly behind
 and below eyes, and small
 scales on chest, breast and
 belly, also caudal base, very

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small on pectoral base. Lateral line complete, of long slender tubes, well exposed or reach ends of scales. Scales with 9 basal radiating striae; 50 small close set uniserial apical denticles; circuli fine, coarser and end abruptly apically.

D. IX, 12, I, third spine $2\frac{1}{3}$ in head, first ray $2\frac{4}{5}$; sixth ray $2\frac{1}{5}$; A. 11, I, third ray $3\frac{1}{2}$, fifth ray 3; caudal $1\frac{2}{3}$, little rounded behind; least depth of caudal peduncle 6; pectoral $1\frac{3}{4}$, rays 25; ventral rays I, 5, fin $2\frac{1}{4}$ in head.

Brown, more or less uniform. Iris gray, slate black above. Fins all uniform.

Hawaiian Islands.

U. S. N. M., No. 51617. Pailolo
Channel, in 138 fathoms.
Albatross Collection 3859.
Length 90 mm. Type.

Genus Bembradon Jordan
and Richardson

Bembradon Jordan and
Richardson, Proc. U. S. Nat. Mus.,
vol. 33, p. 643, 1908. (Type
Bembras laevis hystriöm,
orthotypic.)

Synanidium J. Müller, Arch.

Naturg., p. 302, 1843. (Type

Scorpaena horrida Linnaeus.

Designated by Jordan, Genera of Fishes, pt. 2, pp. 169, 201, 1919.)

Synanidium Agassiz, op. cit. (Type

Scorpaena horrida Linnaeus.)

Synanceichthys Bleeker, Ned.

Tijds. Dierk., vol. 1, p. 234, 1863.

(Type Synanceja verrucosa

Schneider, monotypic. Name

only.)

Emmydrichthys Jordan and Rutter,

Proc. Cal. Acad. Sci., ser. 2, vol. 6,

pp. 221, 562 1/2, 1896.. (Type

Emmydrichthys vulcanus Jordan

and Rutter, monotypic.)

Kofua Whitley, Mem. Queensland

Mus., vol. 10, p. 24, 1930. (Type

Synanceja platyrhynchus Bleeker,

orthotypic.)

Top of head smooth, without ridges or spines. Scales moderate. Dorsal spines 6. Anal rays 14 or 15. Differs from Bembras chiefly in its short spinous dorsal.

Bembradon laevis (Nystrom)

Bembras laevis Nystrom, Bih.
K. Svensk. Vet. Ak. Handl.,
Stockholm, vol. 13, afd. 4, no. 4,
p. 26, 1887 (type locality, Nagasaki).
— Jordan and Snyder, Annot.
Zool. Japon., vol. 3, p. 105, 1901
(reference).

Bembradon laevis Jordan and
Richardson, Proc. U. S. Nat. Mus.,
vol. 33, p. 643, 1908 (copied). —
Jordan, Tanaka, Snyder, Journ.
College Sci., Tokyo, vol. 33, art. 1,
p. 287, 1913 (reference).

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Body slender, width behind head, greater than depth. Snout 3 in head; eye 4; lower jaw protruded. Upper part of head without spines or ridges. Scales 40 in lateral line, thin, ctenoid. D. VII-14; A. 15; pectoral 23; second dorsal spine longest, somewhat more than body depth; anal slightly longer than soft dorsal.

Brownish, with row of dusky spots along lower edge of body. Under parts white. Black blotch at front of spinous dorsal. Anal pale, with dusky basal band. Pectoral brownish, without spots or bands. Length 135 mm. (Nyström.)

Japan.

Genus Bembras Cuvier

Bembras Cuvier, Hist. Nat.
Pois., vol. 4, p. 282, 1829. (Type
Bembras japonicus Cuvier,
monotypic.)

Body elongately ovate, tapering
posteriorly, subcylindrical.
Head moderate, pointed. Snout
little depressed, rather long.
Eye large, shorter than snout.
Maxillary moderate. Inter-
orbital narrow. Ridges and
spines of head distinct.
Scales small. Head scaly. Lateral
line axial, complete. Spinous
dorsal but little smaller than
soft dorsal, with 11 spines and
second fin with spine and 11 rays.
Anal rays 14. Caudal truncate.
Paired fins moderate, few lower
pectoral rays simple.

Bembras japonicus Cuvier

Bembras japonicus Cuvier, Hist.
Nat. Poiss., vol. 4, p. 282, pl. 83, 1829
(type locality, Japan). —
Swanson, Nat. Hist. Animals,
vol. 2, p. 270, 1839 (reference). —
Schlegel, Fauna Japonica, Poiss.,
p. 41, pl. 16, fig. 8 (head above),
1843 (Japan). — Richardson,
Ichth. China and Japan, p. 217,
1846 (reference). — Günther, Cat.
Fish. Brit. Mus., vol. 2, p. 191,
1860 (Japan). — Bleeker, Verh.
Kon. Akad. Wet. Amsterdam,
vol. 18 (no. 6), p. 12, 1879 (ref-
erence). — Steindachner and
Döderlein, Denks. Akad. Wiss.
Wien, math.-naturh. Kl., vol. 53, pt.
1, p. 261, 1887 (Tokyo).

- Jordan and Snyder, Annot. Zool.
Japan, vol. 3, p. 105, 1901 (reference).
- Smith and Pope, Proc. U. S.
Nat. Mus., vol. 31, p. 488, 1906
(Susaki; Urado; Kochi).
- Jordan and Richardson, Proc.
U. S. Nat. Mus., vol. 33, p. 643, 1908
(compiled). — Franz, Abhandl.
Bayer. Akad. Wiss., vol. 10,
Suppl. Band 1, p. 78, 1910 (Yokos-
hama; Misaki). — Jordan and
Thompson, Mem. Carnegie Mus.,
vol. 6, no. 4, p. 280, Sep. 1914
(Nagasaki). — Izuka and
Matsuura, Cat. Zool. Spec. Tokyo
Mus., Vertebr., p. 122, 1920
(Boshu). — Jordan and Hubbs,
Mem. Carnegie Mus., vol. 10, no. 2,
p. 283, June 27, 1925 (Osaka;
Kochi; Misaki).

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Depth $6\frac{3}{4}$ to $7\frac{2}{3}$; head $2\frac{3}{5}$ to $2\frac{7}{8}$, width $2\frac{2}{3}$ to $2\frac{3}{4}$. Snout $2\frac{7}{8}$ to 3 in head from snout tip; eye $3\frac{3}{4}$ to $4\frac{1}{4}$, $1\frac{1}{4}$ to $1\frac{2}{5}$, in snout; maxillary reaches $\frac{1}{8}$ to $\frac{1}{5}$ in eye, expansion 2 to $2\frac{2}{5}$, length $2\frac{1}{3}$ to $2\frac{3}{4}$ in head from snout tip; teeth in villiform bands in jaws, upper band little broader; single small patch of villiform teeth each side of vomer and long band on each palatine; interorbital width $3\frac{1}{2}$ to 4 in eye, narrow, deeply concave. Gill rakers 3 + 10, lanceolate, also 4 small rudimentary tubercles both above and below; gill filaments $\frac{3}{4}$ of gill rakers. No nasal spines; strong and rather long antero-orbital spine above, followed by 5 ~~or~~ 6

supraorbital spines of which ²²²⁹
last 3 march closer, then parietal
pair and finally occipital
pair; 3 preorbital spines,
anterior far forward and
directed forward, posterior
2 close together close before
eye and posterior larger;
suborbital stay with 4 spines;
preopercular 1 spine 3, lowest
smallest inclined down, upper-
most longest or $\frac{1}{3}$ of orbit; 2
postocular spines; 2 supra-
scapular spines, anterior
small, close on posterior and
followed by 4 similarly spinous
scales forming front of lateral
line; 2 diverging opercular
spines, upper more posterior;
subopercle with small spine;
strong, short, humeral spine.

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Scales 70 or 71 + 5 in lateral line; tubular scales 48 + 1 or 2 in lateral line; 6 scales above, 12 below, 11 predorsal forward to occiput; 8 rows below suborbital stay on cheek. Small scales on chest, breast and belly, also on ^{pectoral and} caudal bases. Muzzle naked, head behind and below eyes scaly. Lateral line rather high, axial along side of body to middle of caudal base and tubes small. Scales with 5 to 8 basal radiating striae; 20 to 36 apical denticles, uniserial, with 2 to 5 transverse series of basal elements; circuli fine, end abruptly apically.

D. XI - I, 11, I, third spine $1\frac{7}{8}$ to $2\frac{1}{2}$ in total head length,

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first branched ray $2\frac{3}{4}$ to $3\frac{3}{5}$;
A. 14, I, edge of membranes
behind end of each ray
incised, fourth ray 4 to $4\frac{3}{5}$;
caudal $1\frac{2}{3}$ to $1\frac{7}{8}$, truncate;
least depth of caudal
peduncle $6\frac{1}{4}$ to $6\frac{3}{4}$; pectoral
 $1\frac{3}{4}$ to $1\frac{4}{5}$, rays II, 10, V; ventral
rays I, 5, fin $1\frac{4}{5}$ to 2 in total
head \equiv length.

Brown, paler below,
evidently whitish when fresh.
Iris pale or dull grayish.
Scattered and irregular
dark brown spots on head
above and back. Fins all
pale or light brownish, dorsals
and pectoral marked with
contrasted blackish brown
spots. Caudal with transverse
dark brown subterminal band.

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U. S. N. M., No. 59653. Kochi,
Japan. May 11, 1903 Dr. H. M. Smith.
Length 215 mm.

U. S. N. M., No. 59659. Kochi.
May 11, 1903. Dr. H. M. Smith.
Length 90 mm.

U. S. N. M., No. 59660. Urado,
Japan. May 10, 1903. Dr. H. M. Smith.
Length 120 mm.

U. S. N. M., No. 59661. Susaki,
Japan. May 8, 1903. Dr. H. M. Smith.
Length 114 mm.